STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Office of Conservation and Coastal Lands
Honolulu, Hawaii

File No.: SSBN MA-08-01

June 27, 2008

State of Hawaii
Board of Land and
Natural Resources
Honolulu, Hawaii

REGARDING: Conservation District Use Application for Small-Scale Beach Nourishment (SSBN)

APPLICANT: Stables Road Beach Restoration Foundation, Inc.

LANDOWNER: Multiple landowners

LOCATION: Stables Rd., Spreckelsville, Maui

TMK: TMK: (2) 3-8-002:65, 94, 71, 77, 74 & 78 (seaward)

AREA OF USE: Approximately 3,000 sq ft of coastal lands for beach nourishment, 10,000 Cubic yards.

SUBZONE: Resource

BACKGROUND:

On November 27, 2000, the BLNR approved a master Conservation District Use Application (CDUA) for the State Programmatic General Permit (SPGP) for small-scale beach nourishment (SSBN) (Exhibit 1). The board action includes a provision delegating to the Chairperson the authority to issue Category II permits for small-scale beach nourishment projects in Hawaii, subject to the Board's consent to delegate its authority at regular Board meetings.

The SPGP/SSBN is an attempt to make beach nourishment a more viable option to combat beach

and coastal erosion. The SPGP/SSBN will streamline and simplify the permitting process for beach nourishment of up to 10,000 cubic yds of sand. The SPGP/SSBN incorporates all the requirements, special conditions, limitations required by all agency stakeholders.

The subject SSBN application (MA-08-01) is being processed as part of the standard regulatory process for beach restoration. The SSBN is authorized through the SPGP as an agreement between the Army Corps of Engineers, the Department of Health Clean Water Branch (DOH) and the DLNR. A blanket water Quality Certificate (WQC), Section 401 permit with the DOH for the SPGP expired in February 1, 2008. The Office of Conservation and Coastal Lands (OCCL) is currently working to obtain re-issuance of the blanket 401 with the DOH. Since the blanket WQC for the SPGP has expired, the DLNR is processing the SSBN as a separate individual permit as part of the DLNR and Army Corps approved SPGP regulatory process while the applicant is applying for an individual WQC with the DOH for the project. **As such, the final authorization of this SSBN (MA-08-01) will be contingent upon obtaining a separate WQC for the project either through an individual WQC or re-issuance of the blanket WQC for the SPGP.**

PURPOSE OF PROPOSED ACTION:

This is a planned regional beach restoration project. The proposed project is designed to mitigate the effects of chronic and seasonal coastal erosion fronting the subject property, restore the beach and nearshore area with sand, and to improve lateral access for the general public. As such the applicant is requesting permission to place approved beach quality sand on the public beach for the benefit of all beachgoers including swimmers, recreational canoe paddlers, divers, fisherman, windsurfers, kitesurfers, boogie-boarders, snorkelers and walkers.

The objective of this project is to extend and stabilize the beach along Stable Road in the project area (Exhibit 2). This objective will be met by placing up to 10,000 cubic yards of compatible beach sand along the shoreline and installing a series of temporary geotube groins to minimize sand loss during seasonal changes in sediment transport caused by wind, waves, and currents. If the objective is met, a more permanent solution may be implemented at a later date. The Geotube groins are a critical part of the pilot project design and environmental monitoring of the project is intended to provide quantitative data to supplement any future projects to place permanent shoreline structures. The SSBN terms and conditions allows for placement small-scale, temporary sand retention structures such as groins. The geotube material can provide a stable shoreline structure that has the benefit of being temporary in that it can be cut open and removed in a relatively short period of time. The SSBN for this project will be conditioned such that the proposed geotube groins are temporary and the authorization for them will expire on a specific date after which the geotubes will need to be removed or approval sought for a permanent retention through the proper individual permit process.

Sand transport and circulation at Stable Road Beach is very complex. The volume of sand on the beach varies seasonally. In summer, large quantities of sand are eroded from Lots 5, 6, and 7 at the east end of the project while the beach accretes at Lots 2, 3 and 4 at the west end. In winter, the system reverses and Lots 5, 6, and 7 build while Lots 3 and 4 erode. Erosion during the summers of

2006 and 2007 was more severe that many residents had previously seen. During the 2007 erosion/accretion cycle, there was a net loss, as measured by surveys of the summer and winter beach, of approximately 3,700 cubic yards of sand from the project properties.

Long-term erosion rates (termed "Annual Erosion Hazard Rate") at the project site, as calculated by the University of Hawaii Coastal Geology Group, vary between 1.0 and 1.5 feet per year. The measured long-term erosion rates indicate that erosion experienced at the site is not temporary or localized. Waves reach onto the properties even when the winter beach is at its widest. One way to correct the problem is to increase the beach width by adding sand and by stabilizing the sand with temporary structures.

DESCRIPTION OF PROPOSED ACTION:

DLNR's Hawaii Coastal Erosion Management Plan (COEMAP) recommends that coastal engineer use an integrated design approach for beaches where erosion is chronic due to diminished sediment supply and where dynamic beach segments must be stabilized. The integrated design approach uses beach nourishment combined with sand retention devices (groins) to slow the loss of nourished sand. The design will hold some of the nourished and existing sand but will not totally prevent sand transport out of the project, either along shore or offshore. Beach width will temporarily increase after sand is placed, but sand should continue to move outside the influence of the groins. The groins and nourished sand will not extend beyond the recent location of the beach toe. The area just offshore from the beach is mostly rock and coral rubble. Nourished sand that moves into this rubble area would have no different effect on the existing marine life than the sand that currently moves seasonally along the beach and nearshore.

Mitigation for the Stable Road Beach coastal erosion is to nourish the beach with offshore sand and extend the toe seaward to a previous historic location. The basic premise is to restore the beach to a previous (approximately 1990) position. Since the local sediment transport mechanism causes large seasonal changes in beach volume, temporary Geotube groins are proposed to retain some of the nourished sand and maintain a stable beach (Exhibit 3). A more stable beach will allow better lateral access to the beach by the public and property owners and will reduce erosion of soil and vegetation that pollute nearshore waters. Four groins are proposed for the 900-foot project length. The groins are designed with short (25 foot) Geotube sections at their seaward ends (Exhibit 4). This allows modifying the configuration without replacing the entire Geotube if observation shows changes are needed. The base length of each groin is 50 feet, which is a minimum size for an active beach. The 25-foot Geotubes can be arranged into "L", "T", or "fish tail" configurations to extend the base groin on as-needed basis.

Seasonal sand movement along the Stable Road Beach is very dynamic. Fewer than four groins may not provide enough sand retention to protect the embankment unless they were longer than the proposed 50–75 feet. The Army Corps of Engineers' manual suggest that the ratio between the groin interval and groin length and should be 2-3. The proposed groins have a ratio closer to 4 meaning that they are relatively short and will retain less sand than groins designed to the Corp's guidelines.

A 75-foot straight groin will be placed between Lots 5 and 6. This groin together with the "L" groin at Lot 7 will protect the worst eroded areas during summer by holding a minimal beach width while allowing some existing/nourished sand to bypass to the west. The groin will also hold some sand that would move east during the winter but will not stop all transport when the beach is rebuilding. Nourished sand will be placed on both sides of this groin. A "fish tail" groin will be placed at the seawall between Lots 3 and 4. The fish tail shape assists in redirecting seasonal wave energy from either the northwest or northeast to push sand toward the beach. The shape also slows any seaward rip currents that might flow along the groin stem. The groin may help keep sand in the corner between Lots 3 and 4 and should hold some sand in front of the revetment at Lot 3. The fish tail shape also allows a shorter groin to be used. The short (50 feet) "L" groin on the seawall at Lot 2 is designed to trap sand being moved east to west during summer erosion and help retain sand in the small cove beach between Lots 2 and 3. This is the terminal groin at the west end of the project. Since both Lot 2 and the lot to the west have seawalls, very little sand accumulates along these properties. The proposed groin on Lot 2 is far enough (approximately 200 feet) from the beaches farther west that it should have minimal effect on beach width. Nourished sand will be placed on both sides of this groin to mitigate any loss at the down drift beaches.

NOURISHMENT

The proposed 10,000 cubic yards of sand will be placed over about 1,000 linear feet of beach. Sand will be placed between groins in a construction profile that extends from the top of bank to the seaward end of the groins and fills to the top elevation of the groins, 6 feet on some groins and 3 feet on the others. This fill will use about 7,000 cubic yards of sand. The remaining sand will be placed just below the vegetation line as a small dune. After exposure to waves, some of the nourished sand may move out past the groins and into the local system.

Based on the estimated annual sand loss of 3,700 cubic yards and annual erosion rates of 1.5 feet, the beach should be re-nourished every 5-10 years if an effective groin system remains in place. If the groins are removed, the beach may need re-nourishment in less than 3 years. However, monitoring of the nourished beach profiles and effectiveness of the groins will allow a better estimate of nourishment intervals and part of the intent and scope of this project. Sand samples from the site and from an offshore source have be analyzed and compared in the Marine Environmental Description provided under separate cover. The offshore source sand is compatible with the existing beach sand and meets the minimum state sand compatibility specifications and has a preliminary approval from the OCCL for placement.

GEOTUBE GROINS

The project includes temporary geotube groins that are configured similar to working groin fields located farther west along the shoreline. Using temporary groins allows the erosion and accretion to be studied essentially as a full-scale model that could be modified after observing results. The geotube groins should be monitored for at least 3 years. When the best configuration is determined, the geotubes might be replaced with permanent structures. Where erosion is worst, the groins are buried up to 6 feet below the top of the bank to accommodate large seasonal changes in beach

elevation and profile. A pyramid of three tubes will be used at Lots 5, 6, and 7 at the project's east end. Single geotubes will be used at Lot 2 and between Lots 3 and 4 at the west end where erosion is less severe. These will be laid on the surface or buried slightly for stability.

The geotube groins will extend from the top of the shoreline embankment out to a water depth of about 2 or 3 feet below sea level. A 75-foot groin will reach the approximate toe of the beach. Longer groins would extend into rocky areas or nearshore bottom covered with coral rubble and are not needed to hold the planned beach nourishment. The planned groins provide a partial template for the existing beach but do not prevent sediment transport along the coast. Geotubes are heavy-weight fabric tubes that are made to the customer's specifications. The fabric is tough and can be coated to be even stronger. If the geotubes are damaged by use or vandalism, they can be repaired by patching with glue or by sewing. Scour aprons can be placed under the tubes to give additional protection from wear on rocks. The empty geotubes will be laid out in the desired position and then filled by pumping slurry of sand and water into the tubes. Sand for filling the tubes will come from approved offshore deposits. A 75-foot geotube will contain about 61 cubic yards of sand. A 50-foot geotube will contain 41 cubic yards. The geotube groins proposed will hold approximately 500 cubic yards total.

At the east end of Lot 7, an "L" groin configuration will be installed. The L provides a diffraction shadow to protect sand during summer erosion. The L will also provide a corner to catch sand during winter accretion. A similar configuration with the L facing the opposite direction will be used between Lots 3 and 4. The corner will catch sand eroding from the east end of the project in summer and create a diffraction shadow for northwest waves that erode this lot in winter. Nourished sand will be placed to the east of this groin. A groin will be placed at the east end of the seawall on Lot 2. This groin is designed to slow sand transport before sand leaves the project area and to help trap sand in the small cove between Lots 2 and 3. An "L" or "T" head may be added to this groin to provide a diffraction shadow. A short groin is proposed for placement along the seawall on Lot 2. This groin will create a transition between the longer groin at the east end of Lot 2 and the neighboring shoreline to the west. Nourished sand will be placed on both sides of this final groin.

Scope of Work

1. Beach nourishment area to include approximately 3,000 ft^2 within the sandy beach area fronting the property (Exhibit 2).

2. Beach nourishment area to include the 1000 foot-long beach fronting the subject properties TMK (2) 3-8-002:65, 94, 71, 77, 74 & 78.

3. Sand fill will be placed at a slope of roughly 1V:10H, up to the +10 ft elevation and may extend landward of the shoreline with prior County approval (Exhibit 3).

4. Four, 50 ft to 75 ft long by 16 ft wide Geotubes to enhance retention of the fill sand (Exhibit 4).

5. Total sand volume for this project is limited to 10,000 cubic yards (CY).

The work plan provides a narrative of the equipment, materials, methods, and management that will be used to implement the Category 2 Small Scale Beach Nourishment project at Stable Road beach west of Spreckelsville on the north side of Maui. In summary:

1. Up to 10,000 yd^3 of clean coral sand will be collected using a suction dredge from 2,200 feet offshore.

2. The collected sand will be pumped in slurry via pipeline to the nourishment area.

3. Four geotextile tube structures will be constructed perpendicular to the beach to enclose the work area and provide temporary protection from recurring erosion.

4. Sediment control measures will be laid around the enclosed work area in conformance with typical nearshore best management practices.

5. The remaining fraction of the permitted 10,000 yd^3 of sand will be pumped into the nourishment area and shaped into a beach.

CONSTRUCTION SCHEDULE

Beach nourishment is planned for a 3-week period, depending on weather and surf. All construction equipment and materials arrive at Stable Road within the first 5 days of the 21-day construction interval and depart on the 22nd day. AMC anticipates the following construction schedule:

Task	Begin Day	End Day
Baseline Environmental Monitoring	-10	0
Install Safety Fences and Signs	1	30
Install HDPE Pipeline	1	5
Install Perimeter Silt Curtains	2	3
Construct Stilling Basin from Silt Curtain	3	5
Mobilize Earthmoving Equipment	3	3
Mobilize Barge and Pumps	4	5
Suction Dredging and Settling	5	21
Water Quality Monitoring	5	26
Fill and Place Sand Tubes	5	12
Rough Beach Shaping	7	21
Final Beach Shaping	20	21
Demobilize and Decommission	21	22

Water quality monitoring includes a baseline interval before the equipment arrives at the site, daily during the project and then continuing 5 days after the end of the nourishment work. Dredging and sand settling work will be performed continuously during a break in the weather and surf. The applicant will obtain necessary noise permits and will coordinate the construction schedule with neighbors.

PERSISTENT ACTIVITIES

Certain activities in the Stable Road SSBN project occur throughout the entire project. The chronological organization of this work plan, in some instances, may not adequately describe these activities as occurring each day, often more than once. These persistent activities include:

1. Weather Monitoring: Offshore equipment and methods are appropriate for moderate winds and low surf. Severe weather will cause the offshore equipment to retreat to Kahului Harbor, which process takes approximately a half-day. The contractor will monitor weather, surf, and wind forecasts frequently each day and will begin the decamping process as soon as the prediction is for weather exceeding safe operating conditions for the equipment and anchorage system in place.

2. Water Quality Monitoring: Water samples from within and around the work area will be collected, tested in the field, and shipped to the laboratory as appropriate at the intervals required by the Water Quality Monitoring Plan approved by the Department of Health.

3. Structural BMP Maintenance: Silt curtains, pipeline marker buoys, safety fencing, and other BMP's will be checked and maintained daily throughout the course of the project. The Work Plan indicates when in the process the BMP's are initially installed and when they are removed; maintenance is a persistent activity.

4. Sand Quality Monitoring: The Sand Characterization Report indicates ample quantities of high-quality sand. The sand discharged on the beach will be monitored constantly during pumping. Radio communication from beach to dredge will allow modifications or pauses if the dredge is collecting material of unacceptable quality.

5. Reporting: Field data will be available immediately and transmitted to the review agencies in each daily field report. The Engineer will distribute laboratory data within 1workday of receipt.

SUMMARY:

Categories of Activities
This project falls within the scope of a Category II project. Category II projects involve the placement of up to 10,000 cubic yards of sand within the shoreline area.

In accordance with the SPGP/SSBN the following activities are considered for approval:

1. Offshore extraction of up to 10,000 cubic yards of marine sediment via hydraulic dredging and pumping to the project area.

2. The placement of up to 10,000 cubic yards of sand for the purposes of restoring and nourishing the beach fronting the subject properties. The sand source is subject to final review and approval by the DLNR.

3. Construction and installation of approved sediment retention structures, including 4 geotextile "geotubes" to function as temporary groins.

4. Construction and installation of appropriate and effective silt containment devices, including settling and retention basins and silt curtains.

5. Initiation and mobilization of applicable mechanical equipment, including the use of heavy equipment on the beach to mobilize and shape the imported sand to the designed beach profile.

FINDINGS:

After reviewing the application, the Department finds that:

1. The proposed activities (beach nourishment and dune restoration) are identified land uses within the Resource subzone of the Conservation District, according to Section 13-5-24, Hawaii Administrative Rules (HAR);

2. The project is consistent with the purpose of the Conservation District and consistent with the goals and objectives of the Hawaii Coastal Erosion Management Plan (COEMAP) adopted by the Board of Land and Natural Resources in 1999. It is a major goal of COEMAP to promote appropriate erosion control and beach nourishment efforts such as this.

3. The engineering design approach taken has been to develop an effective design with the smallest environmental and community "footprint" possible and follows the SSBN and COEMAP guidelines and policies.

4. Geotube groins allow the project to be flexible while stabilizing the shoreline.

5. No new littoral cell is being created by the proposed system of groins. In other words existing transport pathways will be maintained and the project scope should not interrupt the natural transport of sediment along the coast.

6. The nourishment will minimize any negative effects on the up drift or down drift beaches outside the project site.

7. The nourished sand and groins will be placed on an area periodically buried by the beach, and no significant impact to the nearshore ecological environment is anticipated.

CONCLUSIONS:

The following section is provided as a summary and conclusions of the application:

1. In conformance with Chapter 343, Hawaii Revised Statutes (HRS), a Draft Environmental Assessment (DEA) was published in the Environmental Notice for the blanket CDUA (ST-3000) on March 8, 2000. The DLNR, issued a Finding of no Significant Impact to the Environment (FONSI) on May 18, 2000. The FONSI was published in the June 8, 2000 OEQC, *Environmental Notice.*

2. A Public Notice was prepared for publication in the Office of Environmental Quality Control (OEQC) *Environmental Notice* and published in the March 23, 2008 issue.

3. Staff has determined that this project is consistent with the purpose of the Conservation District and consistent with the goals and objectives of the Hawaii Coastal Erosion Management Plan (COEMAP) adopted by the Board of Land and Natural Resources in 1999. It is a major goal of COEMAP to promote appropriate erosion control and beach nourishment efforts such as this.

4. A request for comments for the subject SSBN application was sent to the following agencies and persons. Comments received will be reflected in the final terms and conditions:
   a. Department of Health- Clean Water Branch,
   b. Army Corps of Engineers
   c. National Marine Fisheries Service
   d. Office of Hawaiian Affairs (OHA)
   e. Department of Aquatic resources (DLNR)
   f. Maui Co Planning Dept
   g. University of Hawaii Sea Grant Program
   h. Hawaii State Historic Preservation Division

i. Hawaii Coastal Zone Management Program
j. NOAA (PIRO)
k. U.S. Fish and Wildlife Service
l. Beach Nourishment Panel of Technical Experts.

5. Chapter 205A, HRS encompasses most land, water and marine areas of the State. Section 205A-2(a)(9)(C) states that it is a policy of CZM, to "minimize" the construction of public erosion-protection structures seaward of the shoreline. In this case, the erosion control structure could be considered to be a beach or a small structure to retain sand. These are more commonly referred to as soft structures. Sand nourishment is the "softest" structure that can be used as shoreline protection.

6. ***Panel of Technical Experts***
A special Panel of Technical Experts (PTE) was formed to review Category II applications in order to ensure consistency with the provisions of the SPGP and to maintain a high level of environmental safeguards. The panel has reviewed the application and provided comments and recommendations to OCCL staff. This independent panel currently consists of:

➢ *Dr. Charles Fletcher*, Coastal Geologist. University of Hawaii, School of Ocean and Earth Science and Technology Department of Geology and Geophysics.

➢ *Dr. Mark Merrifield*, Oceanographer. University of Hawaii, School of Ocean and Earth Science and Technology Department of Oceanography.

➢ *Tom Smith*, Coastal Engineer. U.S. Army Corps of Engineers, Pacific Ocean Division.

➢ *Alan Everson*, Marine Biologist. NOAA National Marine Fisheries, **Pacific** Islands.

➢ *Heidi Kai Guth*, Lead Advocate, Office of Hawaiian Affairs.

7. **The final authorization of this SSBN (MA-08-01) will be contingent upon the following:**

a. Issuance of a WQC for the project either through an individual DOH WQC Section 401 or equivalent or re-issuance of the blanket WQC for the SPGP.
b. Acceptance of an approved biological monitoring plan acceptable to the DLNR and reviewed by the National Marine Fisheries Service, DAR and the NOAA (PIRO).
c. An approved SMA (minor) or other appropriate County of Maui approval for the proposed activities.
d. An adequate performance metrics approved by the OCCL will be developed by the

applicant to assess the project performance standards and to evaluate potential mitigation of ecological and environmental degradation attributed to the project. These standards shall include but not be limited to:

i. An localized sediment budget and sand transport analysis to determine if there are significant down drift impacts to the beach volume and sand supply.
ii. A water quality summary report in support of federal and state water quality standards.
iii. A biological impact summary and assessment of potential mitigation of ecological and environmental degradation attributed to the project, if needed.
iv. A public access inventory and summary outlining the effects of the project on public access alongshore.

e. Authorization for the geotube groins is temporary and will expire 4 years after the final authorization of the SSBN. After 3 years, the applicant shall begin the process of evaluating the impact of removal of the geotubes or start the application process to permanently retain the structures through the appropriate regulatory process.

RECOMMENDATION:

That the Board of Land and Natural Resources consent to allow the Chairperson to review and authorize the proposed beach nourishment permit MA-08-01 pursuant to CDUA (ST-3000).

Respectfully submitted,

Dolan Eversole, Coastal Geologist
Office of Conservation and Coastal Lands

Approved for Submittal:

Laura H. Thielen, Chairperson
BOARD OF LAND AND NATURAL RESOURCES

Exhibit: 1. CDUA ST-3000 Board Approval Letter.
Exhibit: 2. Project Map.
Exhibit: 3. Project Plan.
Exhibit: 4. Geotube Plan.

Exhibit 1.
October, 2000 Board CDUA Approval

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P.O. BOX 621
HONOLULU, HAWAII 96809

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGEMENT

APR 2 2002

MEMORANDUM

TO: Harry Yada, Acting Administrator
Land Division

FROM: Gilbert Coloma-Agaran, Chairperson
Board of Land and Natural Resources

SUBJECT: Board Approval of Conservation District Use Application ST-3000 for Small Scale Beach Nourishment Projects in Hawaii

This is to inform you that at its November 27, 2000 meeting, the Board of Land and Natural Resources approved the statewide application to permit small-scale beach nourishment projects in the State of Hawaii, and also delegated to the Chairperson the authority to issue Category II permits for small-scale beach nourishment projects in Hawaii, subject to the Board's consent to delegate its authority at regular Board meetings, and subject to the following conditions:

1. The Board of Land and Natural Resources hereby delegates to the Chairperson the authority to issue Category I permits for small-scale beach nourishment projects in Hawaii, without board consent to delegate;

2. Category II actions shall be published in the Environmental Notice;

3. No activity will be authorized under this permit which is likely to adversely affect a Federally listed threatened or endangered species or a species proposed for such designation, or destroy or adversely modify its designated critical habitat;

4. No activity authorized by this permit may substantially disrupt the movement of those species of aquatic life indigenous to the area, including those species, which normally migrate through the area;

8. No activity will be authorized under this SPGP in properties listed or eligible for listing in the National Register of Historic Places without the written consent of the State Historic Preservation Officer;

9. When the Chairperson is notified by the applicant or the public that an individual activity deviates from the scope of an application approved under this permit, or activities are adversely affecting fish or wildlife resources or their harvest, the Chairperson will direct the permittee(s) to undertake corrective measures to address the condition affecting these resources. The permittee(s) must suspend or modify the activity to the extent necessary to mitigate or eliminate the adverse effect;

10. When the Chairperson is notified by the U.S. Fish and Wildlife Service, the National Marine Fisheries Service or the State Department of Land and Natural Resources that an individual activity or activities authorized under this permit is adversely affecting fish or wildlife resources or their harvest, the Chairperson will direct the permittee(s) to undertake corrective measures to address the condition affecting these resources. The permittee (s) must suspend or modify the activity to the extent necessary to mitigate or eliminate the adverse effect;

11. Applicants must submit written compliance reports to the CLP and CWB, including a final report within two months of completion of a project authorized under this permit. The compliance reports must include, as appropriate, descriptions of the construction activities, discussion(s) of any deviations from the proposed project design and the cause of these deviations, results of environmental monitoring, discussion(s) of any necessary corrective action(s), and photographs documenting the progress of the permitted work;

12. On a case-by-case basis the Corps may impose special conditions on projects authorized under this permit, which are deemed necessary to minimize adverse environmental impacts;

13. The DLNR in conjunction with the Federal resource agencies will conduct periodic reviews to determine that the continuation of this permit is not contrary to the public interest;

14. The length of time required to process each request under this permit will be directly related to the adequacy and completeness of the information submitted by the applicant;

15. Abutting landowners shall not be permitted to claim areas artificially

nourished with sand under the State's accretion laws for projects authorized under this permit;

16. Any work or construction authorized under this permit shall be initiated within six (6) months of the approval of such use, and, unless otherwise authorized, shall be completed within one (1) year of the approval of such use. The applicant shall notify the department in writing when construction activity is initiated and when it is completed;

17. To avoid encroachments upon the areas nourished with sand, affected property owners realize that the State may claim that the added sand under existing laws may prevent them from moving the certified shoreline seaward of the present vegetation line until there is substantive evidence that the sand has moved on to other areas. During sand placement, care shall be taken to protect existing dune vegetation and any other existing vegetation along the shoreline. To facilitate any later applications for shoreline certifications, the affected property owners are encouraged to document their present shorelines with photographs or surveys;

18. Where any interference, nuisance, or harm may be caused, or hazard established by the activities authorized under this permit, the applicant shall be required to take measures to minimize or eliminate the interference, nuisance, harm or hazard;

19. For projects authorized under this permit, the applicant shall take measures to ensure that the public is adequately informed of the project work once it is initiated and the need to avoid the project area during the nourishment operation, and for several days following the completion of the nourishment operation to allow potential bacteria levels to decrease;

20. No contamination of the marine environment (trash or debris disposal) shall result from project-related activities authorized under thins permit;

21. In the event there is any petroleum spill on the sand, the operator shall promptly remove the contaminated sand from the beach;

22. For projects authorized under this permit, the applicant, its successors and assigns, shall indemnify and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, and death arising out of any-act or omission of the applicant, its successors, assigns, officers, employees, contractors, and agents under projects authorized under this permit;

23. The Department of Land and Natural Resources reserves the right to impose additional terms and conditions on projects authorized under this permit, if it deems them necessary;

24. The applicant shall comply with all applicable statutes, ordinances, rules, and regulations of the federal, state, and county governments for projects authorized under this permit;

25. The applicant shall implement standard Best Management Practices (BMPs), including the ability to contain and clean-up fuel; fluid or oil spills immediately for projects authorized under this permit. Equipment must not be refueled in the shoreline area;

26. All conditions imposed under the U.S. Army Corps of Engineers State Program General Permit for this effort are hereby incorporated into this statewide Conservation District Use Application;

27. If retention structures are used for projects authorized under this permit, they shall be removed within 30 days of written notification of the Department of Land and Natural Resources, at the applicant's own cost, if the structures do not improve the situation (slow or reverse erosion) or if the structures cause unanticipated impacts in the area;

28. In the unlikely event that historic sites, including human burials are uncovered during routine construction activities for projects authorized under this permit, all work in the vicinity must stop and the State Historic Preservation Division must be contacted at 692-8015;

29. Coastal Lands Program staff will develop a new application form to facilitate the application process for projects authorized under this permit;

30. Coastal Lands Program staff will provide a list of projects approved by the Chairperson to the Board on an annual basis;

31. All Special Conditions imposed by the Honolulu District Engineer on the State Program General Permit are hereby incorporated into projects authorized under this permit;

32. The application process shall include a requirement that the applicant notify all abutting property owners and community organization that may be affected by the proposed action. In addition, each of the property owners and community organizations shall be notified of the time, date, and place that the Board will review the proposed application;

33. The processing fee for Category II permits shall be $250.00;

34. Other terms and conditions as prescribed by the Chairperson; and

35. Failure on the part of applicants to comply with any conditions imposed on projects authorized under this permit shall render the permit null and void.

cc: Board Members Land Agents
DAR/BD/DOCARE
County Planning Departments
OHA/DOHIU.S.
Fish and Wildlife Service/NMFS/Corps

Exhibit 2.
Project Map

Figure 1. Project Site Showing the Reef Flat, Fringing Reef, and Resulting Wave Patterns

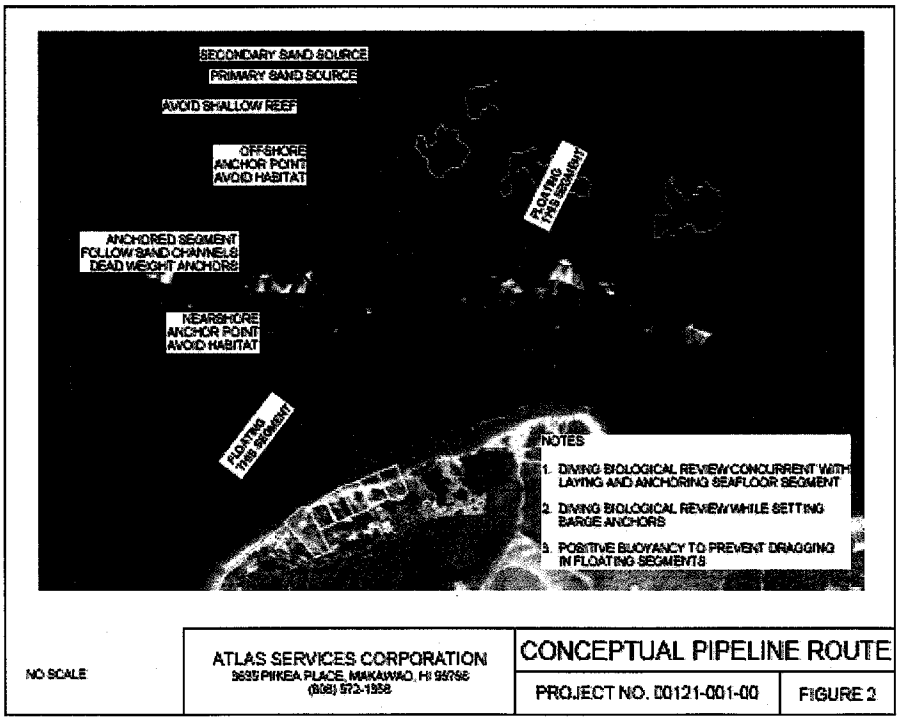


Exhibit 3.
Project Plan

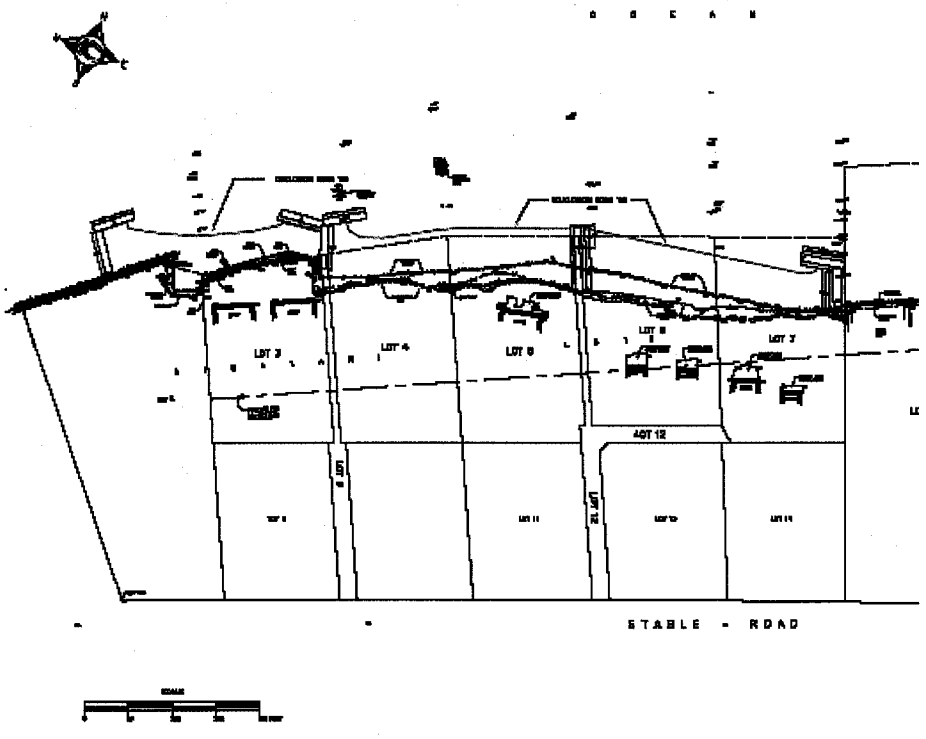
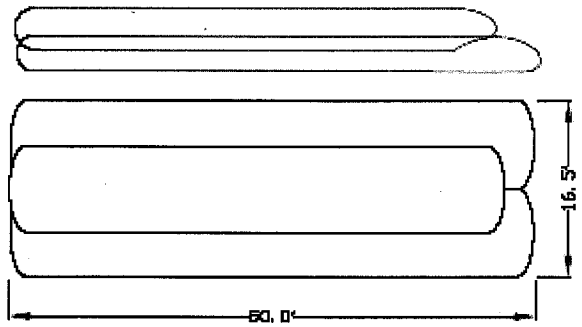
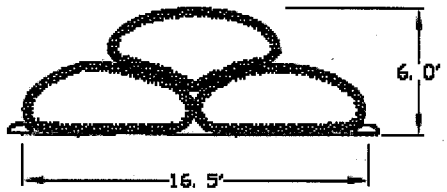


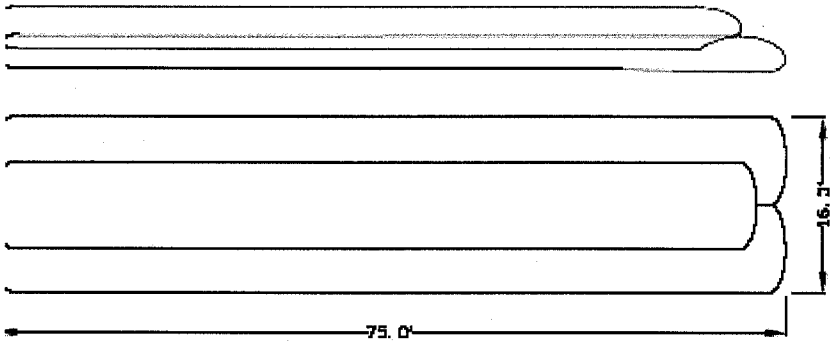
Exhibit 4.
Geotube Plan



TYPICAL 50-FT GEOTUBE STACK
CIRCUMFERENCE 19 FT TYP

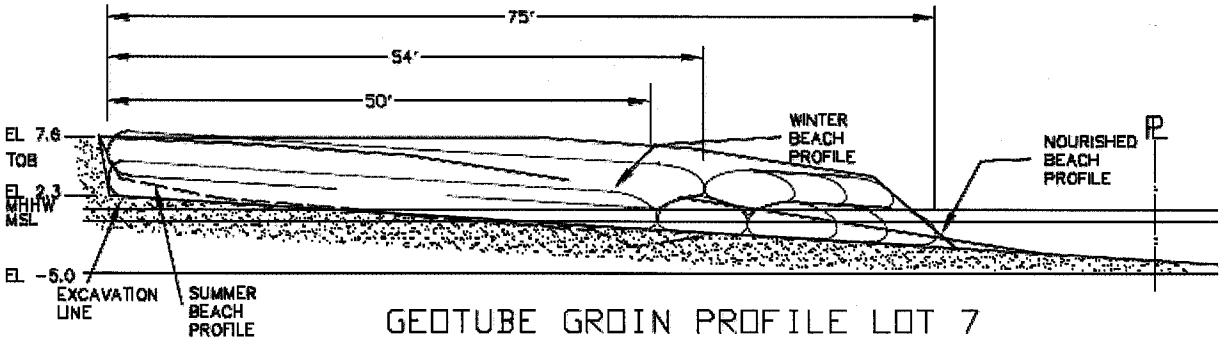


GEOTUBE SECTION TYPICAL
CIRCUMFERENCE 19 FT TYP



TYPICAL 75-FT GEOTUBE STACK
CIRCUMFERENCE 19 FT TYP

PRELIMINARY-NOT FOR CONSTRUCTION



GEOTUBE GROIN PROFILE LOT 7